

REMARKS/ARGUMENTS

Independent claims 1, 9, and 13 have been amended as detailed above. The amendments clarify that the term "tandem connection monitoring information" includes a plurality of TCM fields each being associated with one of a plurality of tandem connection trails. Support for the amendment may be found throughout the specification. Following entry of the amendment, claims 1 through 16 remain pending in the present application.

The Examiner rejected claims 1-16 of the present application by way of an Office Action mailed February 28, 2006. As this reply and request are being filed within three months of the mailing date of the office action, the Applicant respectfully submits that no extension of time fees are due. In the event that the Applicant is mistaken, the Director is hereby authorized to charge any necessary fees, or credit any overpayments, to Deposit Account No. 13-2400.

In the previous Office Action, the Examiner rejected a number of the claims as being anticipated under 35 U.S.C. 102(e) by US Patent No. 6,798,748 (Hessler). The Applicant traversed this rejection. In the current Office Action, the Examiner again relies upon the Hessler reference, but this time in combination with Agilent Technologies, "an overview of ITU-T G.709" (Agilent). The Agilent reference gives a basic overview of the ITU-T G.709 is standard. The Examiner relies, in particular, upon Figure 4 in which the structure of a standard OTU frame is diagrammatically depicted. The frame is shown as containing six TCM fields.

The Applicant notes that the background section of the present application acknowledges the existence of ITU-T G.709. Moreover, in paragraph [0003] the Applicant acknowledges that the frame structure defined in the standard provides for up to six TCM fields. Accordingly, the newly cited Agilent reference teaches only that which was already acknowledged as being in the prior art in the background section of the present application. Therefore, in the Applicant's respectful submission, the Agilent reference provides no additional assistance to bolster the Examiner's rejections based upon Hessler. All of the shortcomings of Hessler remain. Those shortcomings are again outlined below.

The Examiner rejects claims 1-3, 6-8, and 9-16 as being obvious under 35 U.S.C. 103(a) by Hessler in view of Agilent. Claim 4 is rejected as being obvious having regard to Hessler in view of US Patent No. 6,104,702 (Visser). Claim 5 is rejected as being obvious having regard to Hessler in view of Agilent in further view of US Patent No. 6,577,594 (Abbas). The Applicant has carefully considered the Examiner's rejections, but respectfully traverses those rejections for the reasons that follow.

The Hessler reference describes a method designed to address multi-frame misalignment in a SONET/SDH system. Hessler is particularly concerned with shortening the realignment time periods for frames in a network system in which a tandem connection trail has been established. Hessler describes the operation of a tandem connection trail at a tandem connection sink using standardized protocols beginning at column 2, line 64. As noted by Hessler, a frame alignment signal (FAS) contained in the N1/N2 bytes of a frame. The frame alignment signal is found once in each of frames 1 to 8 of the 76 frames of a tandem connection multi-frame. Hessler goes on to describe his improvement in connection with checking multi-frame alignment. It will be noted that for a given frame there will be only one FAS.

The present invention relates to the parallel processing of tandem connection monitoring information for trail terminations at a common network element. As recited in the independent claims of the present application, where a plurality of tandem connection monitoring terminations occur at a network element, the tandem connection monitoring information associated with each of the plurality of tandem connection trails is extracted from a received frame prior to processing the tandem connection monitoring information for any of the tandem connection trails having trail terminations at the network element. By extracting the associated tandem connection monitoring information for each of the plurality of tandem connection trails having trail terminations at the network element prior to processing tandem connection monitoring information for any of the tandem connection trails having trail terminations at the network element, the present invention avoids the problem of inadvertently overwriting or corrupting tandem connection monitoring information. This problem is described in the "Background of the Invention" section of the specification as originally filed.

In the Applicant's respectful submission, the Examiner's obviousness rejections under 35 U.S.C. 103(a) are invalid since the combination of Hessler and Agilent fails to disclose each and every element claimed in the independent claims of the present application. Hessler fails to disclose a step of receiving a frame containing TCM information associated with a plurality of tandem connection trails having trail terminations of the network element. Agilent teaches a frame containing TCM information associated with a plurality of tandem connection trails. Agilent does not go on to describe a step of receiving at a network element of frame containing TCM information associated with a plurality of tandem connection trails having trail terminations at the network element. Neither of the references describe a step of extracting from the frame the associated TCM information for each of the plurality of tandem connection trails having trail terminations of the network element prior to processing the TCM information for any of the tandem connection trails having trail terminations of the network element. Agilent only goes so far as to describe the basic structure of ITU-T G.709 which provides for a frame structure containing TCM information for more than one tandem connection trail.

If Agilent were combined with Hessler, the problem identified in the background of the invention section of the present specification remains. Namely, the TCM trail terminations are serially processed in a network element and the order in which the trails are added or dropped within the network element can result in unnecessary alarms. More particularly, the extraction and processing of the TCM information is performed serially, rather than extracting the TCM information for each of the plurality of tandem connection trails having trail terminations that are element network prior to processing the TCM information for any of the tandem connection trails having trail terminations to the network element, as claimed in the present application. Neither Hessler nor Agilent provide any suggestion or teaching in this regard. Accordingly, even if combined, the cited references fail to teach or suggest the limitations found in the independent claims of the present application.

The Examiner places heavy reliance upon the passage in Hessler beginning at column 2, line 64 to column 3, line 9. This passage describes the conventional process of checking

multi-frame alignment upon which Hessler purports to improve. The passage describes the fact that the frame alignment signal (FAS) is extracted and read. There is a single frame alignment signal (FAS) in each frame. In the Office Action of November 21, 2005, the Examiner argues that the FAS may be viewed as "tandem connection monitoring information" as recited in the claims of the present application. With respect, the Applicant disagrees. To assist the Examiner's understanding of the claim language, the independent claims have been amended to specify that tandem connection monitoring information includes a plurality of TCM fields each being associated with one of a plurality of tandem connection trails. As described in the specification, under existing standard and protocols a frame may have up to six TCM information fields, wherein the fields each contain TCM information relating to one of the plurality of tandem connection trails. There is only one FAS in a given frame. Accordingly, the FAS cannot be viewed as tandem connection monitoring information, as alleged by the Examiner. The FAS relates to frame alignment; it is not "associated" with a tandem connection trail. It is not a TCM field. Accordingly, Hessler cannot be viewed as teaching a step of "extracting from the frame the associated tandem connection monitoring information for each of the plurality of tandem connection trails having trail terminations at the network element" since the frame contains only one FAS field, not a plurality of TCM fields each associated with one of the tandem connection trails. As a result, the Applicant respectfully submits that Hessler alone or in combination with Agilent fails to render obvious the independent claims of the present application and, by extension, the dependent claims of the present application. Therefore, the Applicant respectfully requests that the Examiner's rejections under 35 U.S.C. 103(a) be withdrawn.

The Vissers and Abbas references relied upon by the Examiner in rendering the obviousness rejections against claims 4 and 5 do not cure the deficiencies of the teachings in Hessler or Agilent with respect to the limitations in the independent claims.

Accordingly, the Applicant respectfully submits that the claims of the present application are patentably distinguishable over the Hessler reference, taken alone, or in combination with either Vissers or Abbas. Therefore, the Applicant respectfully requests that the Examiner withdraw his rejections under 35 U.S.C. 103(a).

In view of the foregoing remarks and submissions, the Applicant respectfully requests reconsideration and submits that the present application is in condition for allowance. Should the Examiner be inclined to maintain or renew his rejections on the same or similar grounds, the Applicant respectfully requests the opportunity to clarify his submissions on the teachings of the prior art and the distinguishing features claimed in the present application by way of a teleconference call. Should the Examiner have any questions in connection with the Applicant's submissions, please contact the Applicant's agent, David Greer, at 416-868-1482.

Respectfully Submitted,
Nortel Networks Limited

By: 

David J. Greer, Regn. No. 43,395

Place: Toronto, Ontario, Canada

Date: May 23, 2006